

REMARKS

This paper responds to the Office Action mailed on June 9, 2008.

Claims 1, 8, 12, 13, 52, 62, 63, and 67 are amended, no claims are canceled, and no claims are added; as a result, claims 1-13, 52-53, 60-70 are now pending in this application.

§102 Rejection of the Claims

Claims 1-4, 8-13, 60-61, 63, and 67 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,403,441 to Takehiro *et al.* (hereinafter “Takehiro”). Applicants disagree with the foregoing stated grounds of rejection and desire to further clarify various distinctions of over the cited art. Reconsideration of the present application is therefore requested in light of the present amendment and following remarks.

In the following discussion, the disclosed embodiments may be discussed in comparison to the prior art. It is understood, however, that any discussion of the disclosed embodiments, as well as any discussion of the differences between the disclosed embodiments and the prior art do not define the scope or interpretation of any of the claims. Instead, such discussed differences, if presented, are offered merely to help the Examiner appreciate important claim distinctions as they are discussed.

The Examiner is reminded that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). Accordingly, for a reference to be anticipating, the claimed subject matter must be identically disclosed in the cited art. *In re Arkley*, 172 U.S.P.Q. 524 at 526 (C.C.P.A. 1972). Further, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the art. *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 101 (Fed. Cir. 1991). To overcome the defense of anticipation, “it is only necessary for the patentee to show some tangible difference

between the invention and the prior art.” *Del Mar Engineering Lab v. Physio-Tronics, Inc.*, 642 F.2d 1167, 1172, (9th Cir. 1981).

The Takehiro reference discloses a method for fabricating a storage capacitor using dielectric constant materials. In particular, the Examiner cites the structure shown in Figure 2(d) of Takehiro as allegedly anticipating all elements of the forgoing claims. Applicants note, however, that the structure shown in Figure 2(d) (and in the remaining figures of Takehiro) is substantially a horizontally-oriented capacitor structure. For example, the Examiner urges a correspondence between a support surface, as presently recited, and the lower electrode 6 (Figure 2(d)). The lower electrode 6 extends horizontally, and does not extend into a recess formed in the structure.

Turning now to the claims, differences between the applied reference and the applied art will be specifically pointed out. Claim 1, as amended, recites in pertinent part: “A substrate assembly, comprising...support surface *extending into a recess formed in the substrate...*” (Emphasis added). Takehiro does not disclose this. Claim 1 is therefore allowable. Claims depending from claim 1 are also allowable based upon the allowability of the base claim and further based upon the additional limitations recited in the dependent claims.

Claim 8, as amended, recites in pertinent part: “A capacitor dielectric, comprising... a first high-K capacitor dielectric...a second high-K capacitor dielectric...wherein an oxide present in the first high-K dielectric layer and the second high-K dielectric layer is not diffused *into a surface that extends into a recess that supports* the first high-K dielectric layer and the second high-K dielectric layer.” (Emphasis added). Again, Takehiro does not disclose this. Claim 8 is therefore also allowable. Claims depending from claim 8 are also allowable based upon the allowability of the base claim and further based upon the additional limitations recited in the dependent claims.

Claim 12, as amended, recites in pertinent part: “A capacitor dielectric, comprising... a first high-K capacitor dielectric...and...a second high-K capacitor dielectric...and *a surface extending into a recess that supports the first high-K dielectric layer and the second high-K dielectric layer that remains substantially free of the oxides.*” (Emphasis added). Again, Takehiro discloses only a substantially horizontal structure. Claim 12 is allowable.

Claim 13, as amended, recites in pertinent part: “A capacitor structure, comprising... a first electrode layer *extending into a recess in a substrate...*” (Emphasis added). Claim 13 is therefore allowable.

Claim 52, as amended, recites in pertinent part: “A capacitor dielectric...wherein *a supporting surface extending into a recess and adjacent the plurality of capacitor dielectric layers* remains substantially free of the metal oxide.” (Emphasis added). Again, Takehiro does not disclose this. Claim 52 is therefore also allowable. Claim 53 depends from claim 52, and is also allowable based upon the allowability of claim 52 and further based upon the additional limitations recited in claim 53.

Claim 62, as amended, recites in pertinent part: “A capacitor dielectric, comprising...a plurality of capacitor dielectric layers...wherein the underlying includes a means to minimize oxidation beyond the plurality of capacitor dielectric layers *and into a supporting surface that extends into a recess...*” (Emphasis added). Claim 62 is allowable, since Takehiro does not disclose this.

Claim 63, as amended, recites in pertinent part: “A capacitor dielectric, comprising...a plurality of capacitor dielectric layers *disposed on a supporting surface extending into a recess...*” (Emphasis added). Again, Takehiro does not disclose this. Claim 63 is therefore also allowable. Claims depending from claim 63 are also allowable based upon the allowability of the base claim and further based upon the additional limitations recited in the dependent claims.

Claim 67, as amended, recites in pertinent part: “A capacitor dielectric, comprising... *a supporting surface extending into a recess and adjacent the plurality of layers.*” (Emphasis added). Takehiro does not disclose this. Claim 67 is therefore also allowable. Claims depending from claim 67 are also allowable based upon the allowability of the base claim and further based upon the additional limitations recited in the dependent claims.

§103 Rejection of the Claims

Claims 5-7, 64-66, and 68-70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehiro as applied to claims 1-4, 8-13, 60-61, and 67 above, and further in view of the Examiner’s arguments. Claims 52-53 and 62 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehiro in view of the Examiner’s arguments.

With regard to the arguments pertaining to claims 5-7, 64-66, and 68-70, the Examiner urges that the recited dimensional limitations are, in fact, prima facie obvious (Office Action at page 10). Applicants do not agree, and submit that amendments to claims 1, 63 and 67 recite limitations that are not taught or suggested by Takehiro.

With regard to the arguments pertaining to claims 52-53 and 62, the Examiner asserts that the limitations in the foregoing claims would result from routine experimentation and optimization. Applicants again do not agree, and submit that amendments to claims 52 and 62 recite limitations that are not taught or suggested by Takehiro.

Reservation of Rights

In the interest of clarity and brevity, Applicants may not have equally addressed every assertion made in the Office Action, however, this does not constitute any admission or acquiescence. Applicants reserve all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicants reserve all rights to pursue any canceled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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9 Sept '08

By



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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 9th day of August, 2008.

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